

REMARKS/ARGUMENTS

Reconsideration of the above-identified application in view of the present amendment is respectfully requested.

Claims 1-4, 6, 8, 12, and 13 have been rejected as unpatentable over Scott, US 1,967,374 in view of Horn et al., US 4,205,569. Claims 5, 7, 9-11, and 14-17 have been rejected as unpatentable over Scott in view of Horn et al. and Harris, US 4,671,150.

In rejecting claim 1, the Office Action states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Scott such that the tube is cut in fraction/sequence, as taught by Horn et al., in the event that the tube being cut is very long (Office Action, section 1, page 4). However, if a proposed modification of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the prior art are not sufficient to render the claims *prima facie* obvious. MPEP §2143.01.

The tube feed and cutter device of Scott uses a tube carriage 42 to move a short tube onto a mandrel in a first axial direction from an entry side of the device. The tube is cut into sections while the tube is on the mandrel. The tube carriage 42 then removes the sections from the mandrel in a second, opposite axial direction through the entry side of the device (Scott, page 3, lines 28-49 & 98-114).

If an attempt was made to cut a long tube, similar to the tube T of Horn et al., with the apparatus of Scott, the Scott apparatus would be inoperative. This is because the presence of a portion of the long tube T of Horn et al. in the feeding

zone of the Scott apparatus would block removal of the cut sections of the tube from the mandrel 8 of Scott by the tube carriage 42.

In regard to the Scott patent, it is understood that many mandrel type cutters use a telescopic relationship between the tube to be cut and the mandrel. Mandrel type cutters may also cut a tube into a plurality of sections, although few only cut the tubes into one section at a time. Conventional cutters may cut at least one scrap section from a tube. Many conventional tube cutters may cut two scrap sections from the tube for each cutting cycle.

It is believed that automatic removal of scrap sections from the various types of tube cutters has thus far been unacceptable in meeting customer (i.e., end user) demands. It is also believed that the most effective method, until now, of complete elimination of waste segments from the consumer product has been tedious, visual inspection of the product after processing. This conventional method, no matter how carefully done, is subject to human error and may not insure the desired result.

Many end-users of cut tube segments (often called cores) desire the complete absence of waste segments in a delivered product. This is due to the increasing use of automatic tube/core loaders or feeders incorporated into the high speed covering machines that use these products. These conventional high-speed, automatic tube/core feeders may be very sensitive to malfunction when the tube sections are not almost identical within very tight tolerances of length, diameter, and quality. Waste segments may typically have one rough-cut end and are of significantly random lengths.

The separation of waste segments from the good product has been a difficult problem since the beginning of tube cutting. While it would seem, at first, to be quite simple to accomplish, it has proved over the years to be unexpectedly and frustratingly complex. This is due to several factors.

Firstly, tubes that have been stripped from a conventional, rotating mandrel may be subject to lateral motion, rotational motion, and falling motion due to gravity. This causes their trajectory to be randomly unpredictable.

Secondly, the tubes may be relatively light in weight/mass, further making them susceptible to other influencing forces (i.e., air currents/drafts from the machine itself or random contact with other objects). Also, the high-speed nature of modern tube processing machines may amplify these factors.

Improvements over the years to these types of cutters have been in the way that the tubes having been fed onto the mandrel, and the way the tubes have been removed (stripped) from the mandrel to produce a more profitable and accurate result. Among the objectives of the improvements, in this area, have been: accuracy of cut dimensions; removal of scrap ends (often referred to as trim ends of waste ends); a reduction of the ratio between scrap (waste) and good product; and improved production speeds with minimum downtime.

The tube feeder and cutter of Scott requires a positive feeding action to insure a secure frictional engagement of the tube end (55 fig. 14) and the beveled segment (9 fig. 15). A friction clamp may not be repeatedly relied on. This is especially true with regard to the cutting of paper tubes. Secondly, any unanticipated frictional resistance between the mandrel and the tube during the loading of the tube can

cause the clamp to slide or slip on the tube surface thereby destroying a necessary dimensional relationship between the first end of the tube and the beveled flange (9) on the mandrel at the completion of the loading cycle (Fig. 8).

Thirdly, the use of the beveled flange of Scott may not be sufficient even for a moderately high-speed tube cutting operation. The rigidly fixed end of the tube against the beveled segment, combined with the clearance fit of the tube and mandrel, would likely insure a fault cut even if a necessary fit could be repeatedly achieved at all. Even a seemingly small amount of slippage can disrupt the tenuous frictional relationship necessary for Scott to function properly.

Increased frictional resistance between the mandrel and the tube may occur with conventional mandrel-type cutters. This is due to burrs on the tube and the recessed rings of circular grooves on the mandrel caused by the cutting knives contacting the mandrel's surface. These circular grooves are likely present on mandrel after just a few cycles. These circular grooves may become deeper and more pronounced over time.

With the apparatus of Scott, a small amount of slippage may disrupt a cycle. Scott cannot automatically clear a miss-feed or stop.

Too little clamping pressure on the tube of Scott may result in slippage. Too much clamping pressure may force the tube out of round thereby making proper insertion onto the mandrel more difficult. This may also increase the frictional resistance between the mandrel and the tube if the insertion is achieved. this again would make slippage of the clamp more likely. In practice the clamp pressure may require adjustment every few cycles.

Removing the cut tube sections from the mandrel of Scott by means of a frictional clamp may amplify the same frictional problems as in loading because of the now present internal burrs (cut tube segments) having to pass over many grooves, or rings, on the mandrel (caused by the cutting knives). A friction clamp on the surface of the tube may not reliably and repeatedly complete removal of the cut segments.

The raw cut tubes (before processing) of Scott have rough cut ends and vary in length. This may be considered typically normal and may be acceptable. When these rough-cut tubes are placed in a chute or ramp for feeding into the tube feeder and cutter of Scott (Fig. 15), an end clearance on the ramp is necessary. It is necessary first, to accept the slightly varying differences in tube lengths (up to 1/8" may be considered common) and second, to allow for the longest, expected length to roll down the ramp freely. Thus, when the tubes roll onto the feeding cradle of Scott, there may be significant differences in their lateral position from one tube to the next. Since the clamp is in a fixed position on the cradle and the beveled segment (9) is in a fixed position on the mandrel, the end of each tube may not adequately frictionally engage the beveled segment (9) nor insure that the tube will not move laterally during the cutting cycle. The result is an undesirable cut.

Scott may not function properly on heavy-wall tubing. Even a tube with a moderate wall thickness may cause the waste removal spring (87) to break or cause the feed to jam and possibly be damaged.

The waste removal spring (87) of Scott must first pass over the waste segment (86) in one direction and then moved back in a second, opposite direction

to allow the spring (87) to physically break the waste segment (86) to remove it (Fig. 8). This is assuming that there is sufficient frictional engagement between the waste piece and the beveled ring to prevent the spring (87) from pulling the waste ring with it. In practice, there may not be enough frictional engagement, regardless of how the beveled segment (86) is configured, to insure this result repeatedly. The force of the cutting action overcomes the frictional engagement repeatedly. A waste ring in any tube cutting operation is preferably kept as narrow as possible to reduce wasted material.

Scott discloses no clear method for the complete removal of the now broken segment (86) so that the segment will not interfere with the next tube to be processed. The waste segment (86), now broken, is apparently allowed to fall onto the surface of the machine. The mandrel, which is described to be constantly rotating, will impart a rotational force to the now broken segment making its direction unpredictable in the absence of a restrictive device. None is disclosed in Scott. Positive and isolated waste removal is desirable.

The waste segment at the right (as viewed in Fig. 1) of the mandrel 8 of Scott is allowed to fall free into a space provided between the machine and the conveyor belt. The mandrel is constantly rotating during the operation of the machine so that the waste piece closest to the end of the mandrel will have a rotational motion, as well as a lateral motion, when it is stripped from the mandrel. The faster the rotational speed of the waste piece, the more unpredictable the direction it will take.

Also, Scott produces two scrap pieces of tube for every tube segment processed and cannot process long tubes. Scott uses a mechanical spring device to

remove scrap pieces from among good pieces. Scott may be prone to malfunction. Scott requires a beveled ring to be attached to the mandrel, which may prevent a positive stripping of the cut sections.

Scott does not rotate the tube during the lateral feeding of the tube, which is useful for overcoming the frictional resistance during telescopic feeding and allows for closer clearance fits between the mandrel and the tube to be processed. A closer clearance fit greatly aids in accurately in holding dimensional tolerances for the finished product. Scott does not disclose that the mandrel and tube rotate at the same speed. Scott assumes a positive frictional engagement between the tube and the mandrel, which may not exist on a device that requires the tube to be fed laterally onto, and subsequently removed laterally from, the mandrel. The clearance required for feeding the tube onto and removing the tube segments off the mandrel preclude this positive frictional relationship.

Scott and other conventional mandrel-type machines are, to at least some extent, dependent on a clearance fit frictional contact with the rotating mandrel. The beveled segment described in Scott may not be reliable in practice due to the small but significant differences in length common to raw tubes. The tube may eventually approximate the rotational speed of the mandrel unless acted upon by another force.

The tube of Scott is rotated by loose contact with the rotating mandrel and tenuous frictional contact with a beveled segment, and subsequent contact with the non-rotating cutting knives. This may cause a difference between the speed of the tube and the speed of the mandrel. When the knives initially contact the surface of the tube, and before full pressure contact with the rotating mandrel can be achieved,

the rotational speed of the tube may decrease dramatically because of the inertial forces upon contact with the stationary knives. This contact, by itself, may overcome the frictional relationship between the tube and the beveled ring of Scott. The greater the number of cutting knives combined with a relatively loose fit between the tube and the mandrel may amplify this result. In practice, many subtle differences in tube I.D.'s are processed on standard size mandrels. It would be cost prohibitive to do otherwise.

Dramatic increases or decreases in the tube's rotational speed in relation to the mandrel (while momentary) can, and often do, cause significant problems in any tube cutting operation such as: a chattering or vibration of the tube at the beginning of the cutting sequence causing a visible uneven appearance in cut quality and an unpleasantly noisy operation; and a dramatic lateral shift of the tube as the circular knives first penetrate the tube surface effecting a slight spiraling of the cut producing an unacceptable string-like appearance.

The method used by Scott, of having the circular knives unpowered or freewheeling may mean that the knives are not rotating at initial contact with the tubes surface. This condition may mitigate the chattering or vibration, but may exacerbate the tendency of the tube to shift laterally. This lateral shift may produce unacceptable quality.

In order to have a telescopic relationship between a mandrel and a tube (which conventional mandrel type tube cutters have), a clearance between the O.D. of the mandrel and the I.D. of the tube is required to allow the tube to be slid on and stripped off the mandrel. This clearance prevents a positive frictional relationship

between the tube and the mandrel. An effective rotational speed match does not occur until the cutting knives put frictional pressure on the tube and press it against the mandrel at the start of the cutting action. The rotational surface speed of the knives may be greater than the rotational surface of the mandrel and the tube. This may produce a smoother and more burnished cut.

However, it also tends to produce a vibration or chatter in the tube due to the necessary clearance between the tube and the mandrel. As the cutting knives initially contact the tube surface, they can impart a faster rotational speed to the tube in relation to the mandrel until full pressure contact is established. As stated above, although this speed increase is momentary, it is present and generally causes problems.

Horn is not a mandrel type tube cutter and could not be modified to be a mandrel type core cutter without a complete ground up redesign and reconfiguration, thereby losing all of it's current functionality. The tube of Horn is not rotated at all, neither during a feed cycle nor during a cutting cycle.

The feed cycle of Horn is a straightforward advance and stop, advance and stop, with no capabilities for manipulating the tube other than moving it from point A to point B repeatedly. Horn has no capability of moving the non-rotating tube in more than one direction.

The ejection method of the tubes of Horn contains no provision for removing the waste end of the tube. Horn only eliminates wasted material between segments by shear/die cutting. Shearing or die cutting (similar to an action used by a punch or

shearing press) accomplishes the cutting cycle. The result is tube sections having bias cuts on both ends (ends not parallel with each other).

Harris discloses a non-mandrel type cutter used for reclaiming tubular material for recycling. The single rotating cutter (26) of Harris rotates parallel to the axis of the tubular material to be processed (Fig. 1). The cutter of Harris removes small chunk-like pieces (which have no need to be accurately sized) from the periphery of a spirally, rotating tube to be processed.

Turning now to a consideration of the claims, independent claim 1 is directed to a method of processing a tube. The method includes moving a first portion of the tube into a work station and cutting the first portion of the tube into a plurality of sections. A scrap section, which is disposed on the end of the first portion of the tube, is received at a scrap receiving location. Sections of the first portion of the tube, other than the scrap section, are received at a second receiving location which is separate from the scrap receiving location.

In addition, claim 1 sets forth the step of moving a second portion of the tube into the work station. The second portion of the tube is cut into a second plurality of sections. The second plurality of sections are directed to the second receiving location which is separate from the scrap receiving location.

Claim 1 defines over the prior art, and particularly the patents to Scott (1,967,374) and Horn, et al. (4,205,569) by setting forth the step of moving a second portion of the tube into the work station and cutting the second portion of the tube into a plurality of sections. In the patent to Scott, an entire tube is cut into a plurality of sections on the mandrel 8. The tube carriage 42 is then utilized to move the cut

sections of the tube from the mandrel into engagement with the conveyor belts 106 and 107 of Scott. The patent to Scott does not contemplate cutting a second portion of a tube into a second plurality of sections. If there was a second portion of the tube remaining in the feeding zone of Scott, the second portion of the tube would block movement of the first plurality of sections from the mandrel by the tube carriage 42. This would result in the apparatus of Scott being inoperative to accomplish its intended purpose.

Claims 2 through 17 and 55 through 64 depend from claim 1 and define over the prior art for substantially the same reasons as does claim 1 and by virtue of the method steps set forth in these claims taken in combination with the method steps of claim 1. Specifically, claim 2 sets forth the step of forming an end surface on the second portion of the tube. The step of moving the second portion of the tube into the work station is performed with the end surface of the second portion of the tube leading. There is absolutely nothing in the patent to Scott which even remotely suggest that a second portion of a tube is to be moved into a work station with an end portion, which is formed during cutting of a first portion of the tube, leading. If the apparatus of Scott was modified, in view of the patent to Horn, et al., to have a second portion of a tube moved into a work station, the apparatus of Scott would be inoperative because the second portion of the tube would block removal of the sections of the first portion of the tube from the work station.

Claim 3 depends from claim 1 and sets forth the step of pressing an end portion of the first tube against a stop surface under the influence of force transmitted from the second portion of the tube to the first portion of the tube during

cutting of the first portion of the tube. In the patent to Scott, the tube is pressed against the beveled flange 9. However, a first portion of the tube which is cut into sections, is not pressed against the beveled flange 9 by a second portion of the tube which is cut after the first portion of the tube has been cut.

Claim 4 sets forth the step of pressing the end of the first portion of the tube against a stop surface with a stop surface in a first position during cutting of the first portion of the tube into the first plurality of sections. The stop surface is moved to a position spaced from the first position. The step of cutting the second portion of the tube includes pressing an end of the second portion of the tube against the stop surface with the stop surface in a position spaced from the first position. If the flange 9 of Scott is considered to be a stop surface, the stop surface is not moved from a first position to a position spaced from the first position in the manner set forth in claim 4.

Claim 5 sets forth the step of rotating the tube about a longitudinal central axis of the tube during performing the steps of: (1) moving the first portion of the tube into the work station, (2) cutting the first portion of the tube, (3) moving the second portion of the tube into the work station, and (4) cutting the second portion of the tube. In the patent to Scott, the tube is not rotated about its longitudinal central axis during performance the step of moving the first portion of the tube into the work station. During movement of the tube of Scott into the work station, the tube is gripped by the tube clamping member 70 which is mounted on the tube carriage 42 (see Fig. 7 of Scott). There is nothing in the patent to Scott which even remotely

suggests that the tube will be rotated. In fact, the patent to Scott provides a lining 73 of felt or other suitable material which would hold the tube against rotation.

Claim 6 depends from claim 1 and sets forth the step of moving the first portion of the tube into the work station as including moving the first portion of the tube along a longitudinal central axis of the tube. The step of moving the second portion of the tube into the work station includes moving the second portion of the tube along the longitudinal central axis of the tube. If an attempt was made to utilize the apparatus of Scott to cut a first portion of a tube into a plurality of sections and then remove the sections from the mandrel 8 with a second portion of the tube in the feeding zone of the apparatus of Scott, the second portion of the tube would block movement of the first plurality of sections off of the mandrel 8 and render the apparatus of Scott inoperative.

Claim 7 depends from claim 1 and sets forth the step of moving the second portion of the tube in a direction away from the work station after performing the step of cutting the first portion of the tube and prior to performance of the step of moving the second portion of the tube into the work station. The patents to Scott, Horn and/or Harris do not suggest moving a second portion of a tube in a direction away from a work station after cutting a first portion of a tube and prior to performance of the step of moving the second portion of the tube into the work station. If the Examiner continues to reject claim 7 as being unpatentable over the patents to Scott, Horn and Harris, it is respectfully requested that the Examiner indicate where any of these patents disclose the step of moving the second portion of the tube in a direction away from the work station after performing the step of cutting the first

portion of the tube and prior to performance of the step of moving the second portion of the tube into the work station.

Claim 8 depends from claim 1 and sets forth the step of rotating the tube at the same speed as the mandrel while the tube and mandrel are in a telescopic relationship by applying force to the tube at a location spaced from the mandrel. The patent to Scott clearly contemplates that the tube will be rotated under the influence of force transmitted from the mandrel 8 to the tube. There is nothing in the patent to Scott which even remotely suggests applying force to the tube at a location spaced from the mandrel to rotate the tube at the same speed as the mandrel.

Claim 9 depends from claim 1 and sets forth the step of moving a first portion of the tube into the work station as including moving the tube along a longitudinal central axis of the tube. The speed of movement of the tube is reduced as the tube moves along its longitudinal central axis. A leading end of the tube engages a stop surface after reducing the speed of movement of the tube. There is nothing in the patent to Scott which even remotely suggests engaging a stop surface with a leading end of a tube after reducing the speed of movement of the tube.

Claim 10 depends from claim 9 and sets forth the step of pressing the leading end portion of the tube against the stop surface during cutting of the first portion of the tube into a plurality of sections.

Claim 11 depends from claim 1 and sets forth the step of moving the first portion of the tube into the work station as including simultaneously moving the tube along its central axis and rotating the tube about its central axis. The patent to Scott

grips the tube with the clamping member 70 as the tube is moved along its central axis.

Claim 12 depends from claim 1 and sets forth the step of rotating the first and second portions of the tube about a longitudinal central axis of the tube during cutting of the first portion of the tube. There is nothing in the patent to Scott which even remotely suggests cutting a first portion of the tube and, at the same time, rotating both the first portion and a second portion of the tube about the central axis of the tube.

Claim 13 depends from claim 1 and sets forth the step of moving the first portion of the tube into the work station as including operating a feed assembly to move the tube along its longitudinal central axis.

Claim 14 depends from claim 13 and sets forth the step of moving the first portion of the tube into the work station as including rotating the tube about its longitudinal central axis under the influence of force transmitted from the feed assembly to the tube. In the patent to Scott, the tube is held by the tube clamping member 70 on the tube carriage 42 (see Fig. 7 of Scott). There is nothing in the patent to Scott which even remotely suggests that the tube would be rotated.

Claim 15 depends from claim 1 and sets forth the step of moving the first portion of the tube into the work station as including engaging the tube with a plurality of feed rollers and rotating the feed rollers to move the tube along the longitudinal central axis of the tube under the influence of force applied to the tube by the feed rollers. The patent to Scott clearly contemplates that the tube will be clamped by the clamping member 70 of Fig. 7 of Scott. There is absolutely no

reason for anyone, in the absence of applicant's disclosure, to consider rotating the tube with a plurality of feed rollers, such as the feed rollers disclosed in the patent to Harris. If, for some unknown reason, the feed rollers of Harris were utilized with the apparatus of Scott, how would the tube be held by the clamping member 70? How would the feed rollers be positioned relative to the conveyor belts 106 and 107 of Scott? How would the first plurality of sections, into which the first portion of the tube is cut, be moved past these feed rollers by the tube carriage 42 of Scott?

Claim 16 depends claim 15 and sets forth the step of rotating the feed rollers to move the tube along the longitudinal central axis of the tube as including rotating at least one of the feed rollers about an axis which is skewed relative to the longitudinal central axis of the tube.

Claim 17 depends from claim 15 and sets forth the step of rotating the feed rollers to move the tube along the longitudinal central axis of the tube as including rotating a first feed roller about a first axis which is skewed relative to the longitudinal central axis of the tube and rotating a second feed roller about a second axis which is skewed relative to the longitudinal central axis of the tube.

Claim 54 depends from claim 1 and sets forth the moving, cutting and directing steps as being repeated until the tube is spent.

Claim 55 depends from claim 1 and sets forth the step of moving the first portion of the tube into the work station as including moving a leading end of the tube into the work station at a first speed. The speed at which the leading end of the tube moves into the work station is reduced to a second speed which is less than the first speed. The leading end of the tube is moved into engagement with a stop while

the leading end of the tube is moving at the second speed. The patent to Scott does not even remotely contemplate reducing the speed of movement of the leading end of a tube prior to engagement of the tube with the flange 9 of Fig. 8.

Claim 56 depends from claim 1 and sets forth the step of moving the first portion of the tube into the work station as including rotating a mandrel about an axis which is coincident with a longitudinal central axis of the tube. The tube is rotated about its longitudinal central axis at the same speed as the mandrel while the tube is spaced apart from the mandrel. The mandrel and tube are moved into a telescopic relationship while rotating the mandrel and tube at the same speed about the longitudinal central axis of the tube. In the patent to Scott, the tube is held by the clamping member 70 as it is moved into telescopic relationship with the Mandrel 8.

Claim 57 depends from claim 1 and sets forth the step of moving a first portion of the tube into the work station as including engaging the tube with a plurality of sets of rollers and rotating the rollers and each set of rollers about axes which are skewed relative to each other and are skewed relative to a longitudinal central axis of the tube. In the patent to Harris the rollers 10, 12 and 14 are not skewed relative to the each other.

Claim 58 depends from claim 1 and sets forth the step of moving a first portion of the tube into the work station as including engaging the tube with a plurality of feed rollers and rotating the feed rollers to move the tube along a longitudinal central axis of the tube under the influence of force applied to the tube by the feed rollers. The patent to Scott clearly contemplates that the clamping member 70 will engage the tube and move the tube to the work station.

Claim 59 depends from claim 58 and sets forth the step of rotating the feed rollers to move the tube along the central axis of the tube as including moving at least one of the feed rollers about an axis which is skewed relative to the central axis of the tube.

Claim 60 depends from claim 58 and sets forth the step of rotating the feed rollers to move the tube along the longitudinal central axis of the tube as including rotating a first feed roller about a first axis which is skewed relative to the central axis of the tube and rotating a second feed roller about a second axis which is skewed relative to the first axis. The prior art, and particularly the patent to Harris, does not disclose moving a tube by rotating a first feed roller about a first axis and a second feed roller about a second axis which is skewed relative to the first axis.

Claim 61 depends from claim 1 and sets forth the step of moving a first portion of the tube into a work station as including moving the tube in a first direction along its longitudinal central axis to move the first portion of the tube and a mandrel into a telescopic relationship at the work station. An end portion of the tube is pressed against a stop surface at the work station. The second portion of the tube is moved along its longitudinal central axis in a direction opposite to the first direction to move the second portion of the tube away from the first portion of the tube after performing the step of cutting the first portion of the tube. The mandrel is withdrawn from the plurality of sections formed by cutting the first portion of the tube. The step of moving the second portion of the tube into the work station includes moving the second portion of the tube along its longitudinal central axis to move the second portion of the tube and the mandrel into a telescopic relationship at the work station.

The end of the second portion of the tube is pressed against the stop surface at the work station. The prior art, and particularly the patent to Scott, does not disclose moving a second portion of a tube away from a first portion of a tube after performing the step of cutting the first portion of the tube.

Claim 62 depends from claim 61 and sets forth the step of moving the first portion of the tube and the mandrel into a telescopic relationship as including simultaneously moving the tube in a first direction along its central axis and moving the mandrel along the longitudinal central axis of the tube in the direction opposite to the first direction. There is absolutely nothing in the patent to Scott which suggests moving the first portion of the tube and the mandrel into a telescopic relationship as including moving the tube in the first direction along its longitudinal central axis and moving the mandrel along the longitudinal central axis of the tube in the direction opposite to the first direction.

Claim 63 depends from claim 61 and sets forth the step of moving the first portion of the tube and the mandrel into a telescopic relationship as being performed while rotating the tube and the mandrel at the same speed in the same direction about the longitudinal central axis of the tube. Since the tube of Scott is gripped by the clamping member 70, it is clear that Scott does not contemplate that the tube and the mandrel will be rotated at the same speed in the same direction as they are moved into a telescopic relationship.

Claim 64 depends from claim 1 and sets forth the step of cutting the first portion of the tube into a first plurality of sections as including pressing an end of the first portion of the tube against a stop surface while the stop surface is in a first

position. The stop surface is moved to a second position. The step of cutting the second portion of the tube includes a pressing an end of the second portion of the tube against the stop surface with the stop surface in the second position. The patent to Scott does not even remotely suggest that the flange 9 (see Fig. 8) on the mandrel 8 is to be moved to a second position.

In view of the foregoing, it is believed that the claims in this application clearly and patentably define over the prior art. Therefore, it is respectfully that the claims be allowed and this application passed to issue. If for any reason the Examiner believes that a telephone conference would expedite the prosecution of this application, it is respectfully requested that the Examiner call applicant's attorneys in Cleveland, Ohio at 621-2234, area code 216.

Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,



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